

**Notice of Allowability**

Application No.

09/579,866

Examiner

Sathyanarayan Pannala

Applicant(s)

EISENBERG ET AL.6

Art Unit

2167

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/19/2004.
2. ☒ The allowed claim(s) is/are 1,3-7,9-13,15-18, now renumbered as 1-15.
3. ☒ The drawings filed on 12/2/2002 (fig. 1) are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance                        |
|   | 9. <input type="checkbox"/> Other _____  |

Sathyanarayan Pannala  
Patent Examiner  
Art Unit 2167

## DETAILED ACTION

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. David W. Victor on 3/4/2005.

The claims in the application has been amended as follows:

**i) Claim 1:**

An extensible file access method for accessing a foreign file system from a local data processing system with a native file system, said foreign file system being located on a remote data processing system, said foreign file system having a set of foreign file attributes corresponding to each of a plurality of files in the foreign file system, and said native file system having a set of native file attributes corresponding to each of a plurality of files in the native file system, said method comprising:

- generating a request from a client on the local data processing system to the remote data processing system to open a foreign file in the foreign file system;
- opening of the foreign file by the foreign file system;
- sending of file attributes of the foreign file, hereinafter foreign file attributes, to the local data processing system;
- storing of the foreign file attributes by the local data processing system;

determining a subset of the foreign file attributes which are equivalent to a corresponding subset of file attributes of the native file system, the subset of the foreign file attributes hereinafter known as conventional file attributes;

returning the conventional file attributes to the client;

storing a remaining subset of the foreign file attributes which are not equivalent to a corresponding subset of file attributes of the native file system, the remaining subset of the foreign file attributes hereinafter known as extended file attributes;

accessing of the foreign file attributes stored in the local data processing system by the local data processing system client to process the foreign file; and

processing by the local data processing system client the foreign file using the stored foreign file attributes.

**ii) Claim 3:**

The method of claim [[19]] 1, further comprising:

accessing of the foreign file by the client via a protocol of the native file system, the accessing being performed in a similar manner to accessing a file in the native file system file; and

accessing of the foreign file by the client by use of the extended file attributes, the accessing being performed via a protocol different from the native file system protocol.

**iii) Claim 4:**

The method of claim [[19]] 1, further comprising:

storing the extended file attributes in a shared memory portion of the local data processing system storage which is accessible by the client and other local data processing system processes;

associating a unique handle with the extended file attributes; and

providing the unique handle to a local data processing system process to enable the local data processing system process to access the extended file attributes.

**iv) Claim 6:**

The method of claim [[19]] 1, further comprising:

storing the extended file attributes in a shared memory portion of the local data processing system storage which is accessible by the client and other local data processing system processes;

associating a unique handle with the extended file attributes; and

providing the unique handle to a local data processing system process to enable the local data processing system process to access the extended file attributes.

**v) Claim 7:**

An article of manufacture for use in a computer system for accessing a foreign file system from a local data processing system data processing system with a native file system, said foreign file system being located on a remote data processing system, said foreign file system having a set of foreign file attributes corresponding to each of a plurality of files in the foreign file system, and said native file system having a set of

native file attributes corresponding to each of a plurality of files in the native file system, said article of manufacture comprising a computer-readable storage medium having a computer program embodied in said medium which causes the computer system to perform operations, the operations comprising:

generating a request from a client on the local data processing system to the remote data processing system to open a foreign file in the foreign file system;

opening of the foreign file by the foreign file system;

sending of file attributes of the foreign file, hereinafter foreign file attributes, to the local data processing system;

storing of the foreign file attributes by the local data processing system;

determining a subset of the foreign file attributes which are equivalent to a corresponding subset of file attributes of the native file system, the subset of the foreign file attributes hereinafter known as conventional file attributes;

returning the conventional file attributes to the client;

storing a remaining subset of the foreign file attributes which are not equivalent to a corresponding subset of file attributes of the native file system, the remaining subset of the foreign file attributes hereinafter known as extended file attributes;

accessing of the foreign file attributes stored in the local data processing system by the local data processing system client to process the foreign file; and

processing by the local data processing system client the foreign file using the stored foreign file attributes.

**vi) Claim 9:**

The article of manufacture of claim [[20]] 7, wherein the operations further comprise:

accessing of the foreign file by the client via a protocol of the native file system, the accessing being performed in a similar manner to accessing a file in the native file system; and

accessing of the foreign file by the client by use of the extended file attributes, the accessing being performed via a protocol different from the native file system protocol.

**vii) Claim 10:**

The article of manufacture of claim [[20]] 7, wherein the operations further comprise:

starting an expiration timer corresponding to the extended file attributes in response to storing the extended attributes; and

removing the extended file attributes from the local data processing system storage after the expiration of the expiration timer.

**viii) Claim 12:**

The article of manufacture of claim [[20]] 7, wherein the operations further comprise:

storing the extended file attributes in a shared memory portion of the local data processing system storage which is accessible by the client and other local data processing system processes;

associating a unique handle with the extended file attributes; and  
providing the unique handle to a local data processing system process to enable the local data processing system process to access the extended file attributes.

**ix) Claim 13:**

A distributed computer system for accessing a foreign file system from a local data processing system with a native file system, said foreign file system being located on a remote data processing system, said foreign file system having a set of foreign file attributes corresponding to each of a plurality of files in the foreign file system, and said native file system having a set of native file attributes corresponding to each of a plurality of files in the native file system, said distributed computer system comprising:

- a requestor for generating a request from a client on the local data processing system to the remote data processing system to open a foreign file in the foreign file system;

- a foreign file which can be opened by the foreign file system;

- a sender for sending file attributes of the foreign file, hereinafter foreign file attributes, to the local data processing system;

- storage for storing of the foreign file attributes by the local data processing system;

- a comparator for determining a subset of the foreign file attributes which are equivalent to a corresponding subset of file attributes of the native file

system, the subset of the foreign file attributes hereinafter known as conventional file attributes;

a data transfer for returning the conventional file attributes to the client;

storage for storing a remaining subset of the foreign file attributes which are not equivalent to a corresponding subset of file attributes of the native file system, the remaining subset of the foreign file attributes hereinafter known as extended file attributes;

a file access for accessing the foreign file attributes stored in the local data processing system by the local data processing system client to process the foreign file; and

a processor for processing by the local data processing system client the foreign file using the stored foreign file attributes.

**ix) Claim 15:**

The distributed computer system of claim [[21]] 13, further comprising:

a file access for accessing by the client the foreign file via a protocol of the native file system, the accessing being performed in a similar manner to accessing a file in the native file system; and

a file access for accessing by the client the foreign file by use of the extended file attributes, the accessing being performed via a protocol different from the native file system protocol.

**x) Claims 19-21 (Canceled).**



***Reasons for Allowance***


2. The following is an examiner's statement of reasons for allowance:
  - Prior art of record fails to teach independent claim 1 limitation of determining a subset of the foreign file attributes which are equivalent to a corresponding subset of file attributes of the native file system, the subset of the foreign file attributes hereinafter known as conventional file attributes. This limitation is also in independent claims 7 and 13.
  - Applicant's arguments in the Amendment filed on 8/19/2004, page 7, paragraph one and page 11, paragraph 2 are persuasive and reasonable.
  - Applicant approved to
  - Xu et al. (US Patent 6,324,581) hereinafter Xu teaches a method of data mover computers control access to respective files systems in the data storage and a network client serviced any of the data movers can access each of the file systems. Whereas Schmuck et al. (US Patent 5,940,841) hereinafter Schmuck teaches a system having a shared disk file system running on multiple computers each having their own instance of an operating system and being coupled for parallel data sharing access to files residing on network attached shared disks.
3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sathyanarayan Pannala whose telephone number is (703) 305-3390. The examiner can normally be reached on 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (703) 305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sathyanarayan Pannala  
Examiner  
Art Unit 2177

srp  
March 4, 2005

  
Sathyanarayan Pannala  
Examiner